



Effectiveness of Cooperative Learning Models of Type Peer Tutor and Two Stay Two Stray in Junior High Schools Reviewed from Students Physics Learning Activities

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Abstract

The focus of this article is on the effectiveness of the cooperative learning models in Peer Tutor and Two Stay Two Stray high schools in terms of students' physics learning activities. The purpose of this study was to identify how effective the cooperative learning models were Peer Tutor and Two Stay Two Stray junior in high schools. Data obtained in journal writing comes from international and national journals, book documents, proceedings, thesis articles, and websites that relate to the object of research and then analyzed using text analysis techniques. The results showed that the cooperative learning models were Peer Tutor and Two Stay Two Stray suitable for junior high school students considering that this age was a transitional period. from concrete times to formal times. The task of being a tutor in this peer tutoring learning model is that they (the tutors) must try to get new relationships and relationships that are strong with peers, find their own role, and develop intellectual and social skills. While the learning model is Two Stay Two Stray also very easy to apply in all levels of class, especially for learning Physics in junior high because basically like a discussion group. Both learning models can be used effectively in all subjects, especially physics and for all ages, students, especially in junior high schools, so that students' physical learning activities are more optimal.

Keywords: Physics; Physics Learning; Physics Learning Activities; Peer Tutor; Two Stay Two Stray

Introduction

"Physics comes from the Greek language which means nature. Physics is the science that studies the nature and symptoms of things in nature. These symptoms in the beginning are what our senses experience, for example the vision of finding optics or light, hearing finding lessons about sounds, and senses of touch that can feel heat. Physics is one of the basic natural sciences that is widely used as a basis for other sciences. Physics is the study of natural phenomena as a whole. Physics studies material, energy, and natural phenomena or events, both macroscopic (large-sized, such as the motion of the Earth around the Sun) and microscopic (small size, such as the motion of electrons around the nucleus) related to changes in matter or energy (Patmawati., 2012) Physics is a process that leads us to the general principles that describe how the behavior of the world of physics. Physics is an experimental science (Young & Freedman., 1999).

Most students think that if physics is a very difficult lesson, many formulas, and boring, many students experience difficulties in the process of learning physics. Students are less able to master the material given by the teacher. Usually it will be seen through the learning outcomes of students, both in daily tests and assignments given, the results are not in line with expectations. Many students get scores under the Minimum Completeness Standard (SKM = 75). SKM cannot be fulfilled because students look less enthusiastic when taking lessons. After various approaches to students, it was found out that students' curiosity to study physics was very low. The low curiosity of these students was due to the use of teacher teaching methods which were always fixed and boring. Teachers still use a lot of lecture methods, this contributes poorly to students. Students are rarely involved in the learning process.

Various efforts are needed through innovation learning strategies, especially by teachers that can provide direct experience to students so that students gain learning through a learning process that provides meaningful learning experiences and is organized interactively, aspirationally, fun, challenging, motivating students to actively participate, as well as provide sufficient space for initiative, creativity, and independence according to the talents, interests, physical and psychological development of students.

Learning methods need to be developed that can create a better and more meaningful learning atmosphere if the child experiences what is learned, not just knowing it so that students are involved in the learning process. One of them is cooperative learning. Cooperative learning is one of the efforts to invite students to take an active role in small group learning activities. Cooperative small groups can be defined as learning environments where students interact in small groups to work on academic tasks to achieve common goals (Huda., 2014: 29). While some cooperative learning methods that will be used are the peer tutor method and the method two stay two stray. Both of these methods are able to increase student activity is the method peer tutor and two stay two stray.

The method of peer tutors is guidance or assistance given to other people of the same age. Learning together in groups with peer tutors is one of the characteristics of competency-based learning, through interacting and communication activities, students become active learning, they become effective. Collaboration in groups with peer tutors can be linked to values so that collaboration is more intensive and students can achieve their competence. While two stay two stray is a two-stay or two-strategy strategy is a strategy that can encourage group members to gain concepts in depth through the giving of roles to students.

Learning is very much needed for activities, because without the learning process activities may not take place properly. In the process of learning activities must involve all aspects of students, both physical and spiritual so that changes in behavior can change quickly, precisely, easily and correctly, both related to cognitive aspects of affective and psychomotor (Hanafiah., 2010: 23).

In designing the learning, a teacher must be able to direct and optimize the activeness that is owned by each student so that learning activities increase. The method that is able to increase student activity especially in physics learning is the method peer tutor and two stay two stray. Through this varied method, students will optimize their abilities and activeness so that students' physics learning activities through learning methods peer tutor (peer tutors) and two stay two stray are more optimal.

Results and Discussion

Physics Learning in Junior High Schools

Physics learning is part of natural science lessons. Natural science classically is divided into two parts, namely 1) physical sciences whose objects are substance, energy, and substance and energy transformation, 2) biological sciences whose objects are living things and their environment (Kemble., 1966).

Learning Physics as Sambiri (2012) argues that Physical learning is seen as a process to develop the ability to understand the concepts, principles and laws of physics so that in the learning process must consider effective and efficient learning strategies or methods.

The nature of physics learning as Sastradi (2012) states his opinion that, "Physics learning is said to work well, if after learning students have the mastery of physics cognitively, psychomotor, and affective. Abilities in the cognitive sphere include, adding knowledge, understanding, application, analysis, synthesis, and evaluation. Mastering Physics in the cognitive domain is better known by mastering physics in theory. Although mastery of science in the cognitive realm is mastery in theory, but mastering physics in the cognitive domain as a whole still requires the ability to think complex. The principle of constant physics or always subject to the rules of agreement must be cognitively controlled. Ability in the affective domain includes the usefulness of science (physical science) directly or indirectly in supporting the needs of life or in the social system. Abilities in the psychomotor domain include something that can be observed or measured, whose mastery must be seen in physical or muscle involvement. Good physics learning is if you do not only do activities in class, or only involve processes and products which can only produce physics mastery in the cognitive and psychomotor domains, but more than that it needs to be added with examples of physics events or benefits in the environment. everyday life. Thus, learning physics can improve students' mastery of physics in the affective domain.

Physics learning in junior high school (SMP) is one of the subjects of Natural Sciences (IPA) which can be a vehicle for students to learn themselves and their natural surroundings. Physics is a branch of science that has certain characteristics in life and has values that will always develop. To develop the values contained in Physics subjects can be done through teaching and education. The function of physics subjects in junior high schools is basically to provide knowledge about the natural environment, develop technology and skills related to utilization in everyday life. While the goal of learning Physics in junior high school is basically to provide knowledge to understand the concepts of physics and their interrelationships, and to be able to apply with scientific methods that involve process skills to solve problems in everyday life (Depdiknas., 2014).

In physics learning, the experience of science processes and understanding of scientific products in the form of direct experience will be very meaningful in shaping students' concepts. This is also in accordance with the level of mental development of junior high school students (SMP) who are still in the transition phase from concrete to formal, will greatly facilitate students if learning science invites children to learn to form concepts based on empirical facts in the field.

Cooperative Learning Models Peer Tutor Types and Two Stay Two Stray

Peer tutor learning is cooperative learning that focuses on using small groups of students to work together to maximize learning conditions to achieve learning goals. Cooperative learning creates interactions of compassion, compassion and fostering so as to create a learning community (Sugiyanto., 2009).

Peer tutor learning method (peer tutoring) is a learning activity carried out by a student to other students so that students better understand the learning material (Majid., 2013). The peer tutor learning method is done by teaching peers and providing opportunities for students to learn something well. Indirectly, the student becomes a resource person or teacher for another friend (Jalil., 2014).

There are several things that need to be considered in choosing a peer tutor that can be accepted or approved by other students so that students do not have fear or are reluctant to ask questions, can explain the material needed by students who are tutee, have enough creativity to provide guidance, have

intelligence and skills that are superior to others, and have the awareness to help friends. The peer tutor learning method is different from conventional learning methods commonly used in teaching and learning in this case skills learning.

Suherman (2003: 276) argues that peer tutoring is a group of students who have completed learning materials, providing assistance to students who have difficulty understanding the material they are learning. Suryo and Amin (1984: 51) what is meant by peer tutors is a person or several students who are appointed and assigned to help certain students who have learning difficulties.

While the Two Stay Two Stray learning model is a learning model of two living two guests. According to Suprijono (2009, p. 20) the two-staying two-guest strategy is a strategy that can encourage group members to gain concepts in depth through giving roles to students. Learning with the TSTS model begins with the division of the group after the group is formed the teacher gives the task in the form of problems they have to discuss the answer to. While Lie (2010) argues, "The teaching and learning technique of Two Stay Two Stray was developed by Spencer Kagan in 1992 and this technique can be used in all subjects and for all ages of students".

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Learning will be gained through experience, through active learning, and by interacting with teaching materials and people others. According to Rusman (2011) in the teaching and learning process, the activeness of students is very important and needs to be considered by the teacher so that the teaching and learning process taken really gets an optimal result.

Learning must grow the atmosphere in such a way that active students ask, question and express ideas. Learning is indeed an active process of the learner in building his knowledge, not a passive process that only receives the teacher's lecture about knowledge. Active learning is a learning process that fosters the dynamics of learning for students. The dynamics of articulating the world of ideas and confirming them with the world of reality they face. (Suprijono., 2009). In learning it is necessary to have activities. There is no learning if there is no activity (Sardiman., 2011).

To get the optimal physics learning activities students, especially at the junior high school level, there are several varied and efficient learning methods needed. Cooperative Learning Model Type Peer Tutor and Two Stay Two Stray are suitable for junior high school students considering that this age is a transitional period from concrete times to formal times. The task as a tutor is an activity that is rich in experience and is actually a child's needs, because in this peer tutoring learning model, they (the tutors) must try to get new relationships and relationships that are solid with peers, find their own role, develop intellectual skills and social. Thus, the burden given to tutors will provide an opportunity to get their role, get along with other people, and even gain knowledge and experience.

Peer tutoring method is a learning method that is done by empowering students who have a high absorptive capacity from the group of students themselves to become tutors for their friends, where students who become tutors are tasked to provide learning material and training to their friends (tutee) who do not understand the material/ training provided by the teacher based on the rules that have been agreed upon in the group, so that a group learning atmosphere that is cooperative is not competitive because the tutor is a friend of the same age as the students. Peer tutor is a group of students who have completed learning materials, providing assistance to students who have difficulty understanding the material they are learning (Suherman et al., 2003). Learning assistance by peers can eliminate awkwardness. Peer language is easier to understand, other than that with peers there is no reluctance, low

self-esteem, shame, and so on, so it is expected that students who are less understanding do not hesitate to express the difficulties they face (Sukmadinata., 2007) so that learning activities Physics is much more fun and runs optimally.

Where as in the learning model Two Stay Two Stray requires students to create groups so that they can complete their group assignments well. With group work will lead to positive cooperative relationships among students because they will do good things. During the group work process, students will learn material related to group assignments given by the teacher based on their individual abilities and the presence of other group members who visit will contribute information about the material during group study in the group.

Learning model is Two Stay Two Stray very easy to apply at all levels of the classroom, especially for learning physics in junior high school because basically the model is Two Stay Two Stray like a discussion group. The model Two Stay Two Stray involves the activities of all students without having to have status differences and involves the active role of students. The teacher in the implementation of this model is only as a mentor because the learning activities are fully carried out by students along with the group.

Thus, it can be concluded that the two learning models above can be used effectively in all subjects, especially in Physics and for all ages, especially in junior high schools so that students' physical learning activities are more optimal.

Methodology

This research uses literature study method. The data obtained comes from international and national journals, book documents, proceedings, thesis articles, and websites that relate to research objects and then analyzed using text analysis techniques.

Conclusion

Learning is needed for activities, because without the learning process activity is not possible properly. In the process of learning activities must involve all aspects of students, both physical and spiritual so that changes in behavior can change quickly, accurately, easily and correctly, both related to cognitive aspects of affective and psychomotor.

Physics learning in junior high school (SMP) is one of the subjects of Natural Sciences (IPA) which can be a vehicle for students to learn themselves and their natural surroundings. Physics is a branch of science that has certain characteristics in life and has values that will always develop.

To get the optimal physics learning activities, students, especially at the junior high school level, need a variety of learning methods that are varied and efficient. Cooperative Learning Model Type Peer Tutor and Two Stay Two Stray are suitable for junior high school students considering that this age is a transitional period from concrete times to formal times. Peer tutoring method is a learning method that is done by empowering students who have a high absorptive capacity from the group of students themselves to become tutors for their friends, where students who become tutors are tasked to provide learning material and training to their friends (tutee) who not understand the material/ training given by the teacher. While the learning model is Two Stay Two Stray very easy to apply at all grade levels especially for learning Physics in Junior High Schools because basically the model is Two Stay Two Stray like a discussion group. The teacher in the implementation of this model is only as a mentor because the

learning activities are fully carried out by students along with the group. Both learning models are very effective to be used in all subjects, especially physics subjects, and for all ages, students, especially in junior high schools, so that students' physical learning activities are more optimal.

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